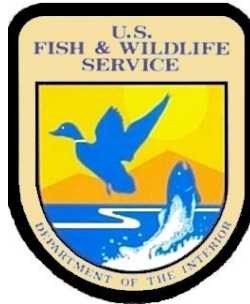


The Road Inventory of Conboy Lake National Wildlife Refuge Glenwood, WA



Prepared By:
Federal Highway Administration
Central Federal Lands Highway Division
April 2013



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INTRODUCTION

The Transportation Equity Act for the 21st Century (Public Law 105-178) created the Refuge Roads Program. Refuge roads are those public roads that provide access to or within a unit of the National Wildlife Refuge System and for which title and maintenance responsibility is vested in the United States Government. Funds from the Highway Trust Fund are available for refuge roads and can be used by the station to pay the cost of:

- (a) Maintenance and improvements of refuge roads.
- (b) Maintenance and improvements of:
 - (1) Adjacent vehicle parking areas
 - (2) Provision for pedestrians and bicycles and
 - (3) Construction and reconstruction of roadside rest areas that are located in or adjacent to wildlife refuges
- (c) Administrative costs associated with such maintenance and improvements.

The funds available for refuge roads are to be disbursed based on the relative needs of the various refuges in the National Wildlife Refuge System, and taking into consideration:

- (a) The comprehensive conservation plan for each refuge;
- (b) The need for access as identified through land use planning; and
- (c) The impact of land use planning on existing transportation facilities.

To determine the relative needs of the U.S. Fish and Wildlife Service, the Federal Highway Administration (FHWA) was asked to inventory all public access roads and parking lots and provide a condition assessment of each. In 2008 the inventory was expanded to include administrative (service use only) roads and parking lots. An FHWA representative meets with refuge personnel to identify route segments and assign route numbers and functional classifications (See Appendix) for each route. All roads and parking lots are mapped using Trimble GPS units and visually assessed for condition using the RSL method of evaluation developed at Utah State University (See Appendix). Culverts, Gates, Guardrails and Low Water Crossings are also mapped and inspected for any obvious defects.

An estimate is provided, in year 2008 dollars, based on the condition determined by the rating system. Estimates are based upon data and location factors from the 2008 RS Means Heavy Construction Cost Data 22nd Annual Edition. Cost estimates should be evaluated on a case-by-case basis when being used for programming purposes.

Native Surfaced roads and parking lots already inventoried will not be re-inventoried and will not appear individually in report chapters 5, 6 and 8. Mileages and areas of native surfaced roads and parking lots will still appear in all summaries in the report and will remain in the road inventory database. In addition to this report, the FHWA will furnish the condition ratings of each route and segment to the Fish and Wildlife Service in a Microsoft Access database so the data can be included in their Real Property Inventory.

Conboy Lake - 13522 Summaries

Route Miles and Percentages by Functional Class and Condition

Condition Rating (Based on RSL)*

F. C.	Excellent		Good		Fair		Poor		Failed		TOTAL MILES
	MILES	%	MILES	%	MILES	%	MILES	%	MILES	%	
I	0.00	0.0%	0.66	100.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.66
II	0.00	0.0%	0.00	0.0%	0.77	100.0%	0.00	0.0%	0.00	0.0%	0.77
III	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00
IV	0.00	0.0%	0.19	100.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.19
V	0.00	0.0%	3.86	26.9%	10.51	73.1%	0.00	0.0%	0.00	0.0%	14.37
Totals	0.00	0.0%	4.71	29.5%	11.28	70.5%	0.00	0.0%	0.00	0.0%	15.99

*For a description of condition ratings for the various surface types see the Appendix.

Route Miles and Percentages by Surface Type and Condition

Paved Condition Rating [Condition(RSL)]

Surface	Excellent		Good		Fair		Poor		Failed		TOTAL MILES
	MILES	%	MILES	%	MILES	%	MILES	%	MILES	%	
AS	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00
CO	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00
Totals	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00

Unpaved Condition Rating [Condition(RSL)]

Surface	Excellent		Good		Fair		Poor		Failed		TOTAL MILES
	MILES	%	MILES	%	MILES	%	MILES	%	MILES	%	
GR	0.00	0.0%	1.14	38.4%	1.83	61.6%	0.00	0.0%	0.00	0.0%	2.97
NA	0.00	0.0%	3.57	27.4%	9.45	72.6%	0.00	0.0%	0.00	0.0%	13.02
PR	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00
Totals	0.00	0.0%	4.71	29.5%	11.28	70.5%	0.00	0.0%	0.00	0.0%	15.99

Square Footage (Parking Areas)

Condition Rating

Surface	Excellent		Good		Fair		Poor		Failed		Total SQ FT
	SQ FT	%	SQ FT	%	SQ FT	%	SQ FT	%	SQ FT	%	
AS	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
CO	348	22.5%	1,197	77.5%	0	0.0%	0	0.0%	0	0.0%	1,545
GR	9,614	17.5%	45,415	82.5%	0	0.0%	0	0.0%	0	0.0%	55,029
NA	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
PR	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
Totals	9,962	17.6%	46,612	82.4%	0	0.0%	0	0.0%	0	0.0%	56,574

Conboy Lake - 13522

Summaries

Route Miles and Percentages by Use Type and Condition

Road Condition Rating: Public/Administrative Use

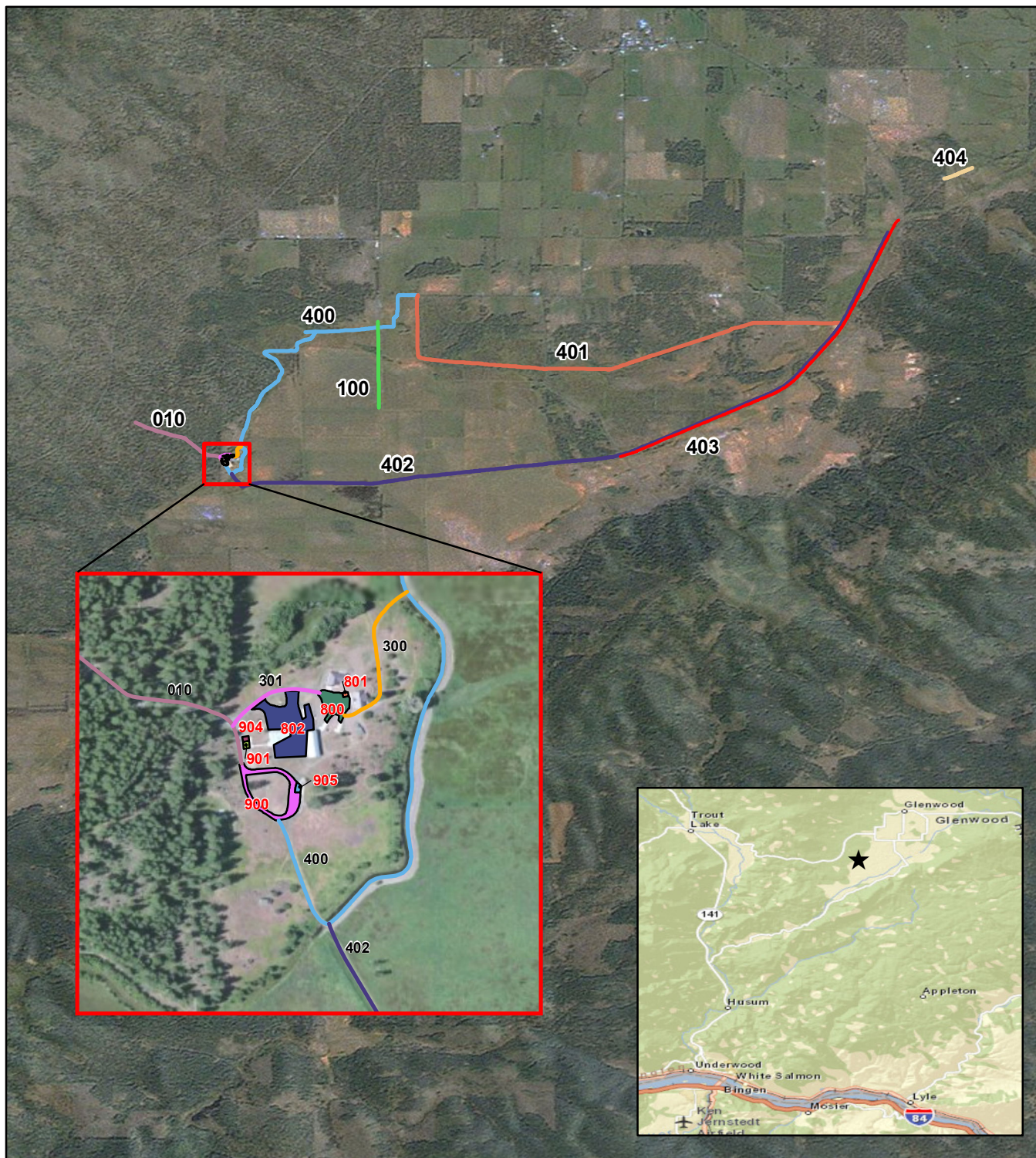
USE TYPE	Excellent		Good		Fair		Poor		Failed		TOTAL MILES
	MILES	%	MILES	%	MILES	%	MILES	%	MILES	%	
Public (FC I-III)	0.00	0.0%	0.66	46.2%	0.77	53.8%	0.00	0.0%	0.00	0.0%	1.43
Admin (FC IV-V)	0.00	0.0%	4.05	27.8%	10.51	72.2%	0.00	0.0%	0.00	0.0%	14.56
Totals	0.00	0.0%	4.71	29.5%	11.28	70.5%	0.00	0.0%	0.00	0.0%	15.99

Parking Condition Rating: Public/Administrative Use

USE TYPE	Excellent		Good		Fair		Poor		Failed		Total Sq Ft
	Sq Ft	%	Sq Ft	%	Sq Ft	%	Sq Ft	%	Sq Ft	%	
Public	0	0.0%	15710	100.0%	0	0.0%	0	0.0%	0	0.0%	15,710
Admin	9962	24.4%	30902	75.6%	0	0.0%	0	0.0%	0	0.0%	40,864
Totals	9,962	17.6%	46,612	82.4%	0	0.0%	0	0.0%	0	0.0%	56,574

Conboy Lake National Wildlife Refuge

ROUTE LOCATION MAP



0 0.5 1 2 3 4 Miles

Conboy Lake - 13522

Route Identification List

Shading Color Key:

White = Paved Routes
Yellow = Unpaved Routes

RTE #	Asset Number	ROUTE NAME	RTE MI	ROUTE DESCRIPTION	PAVED MI	UN-PAVED MI	LANES	FC
010	10036264	Wildlife Refuge Entrance Road	0.66	From Wildlife Refuge Road to Visitor Parking (Route 900)	-	0.66	2	1
100	-	Lake Road	0.77	From Lake Road (County) to end of route	-	0.77	1	2
300	-	Rear Shop/Maintenance Access Road	0.12	From Residence Parking (Route 800) to Cold Springs Ditch Road (Route 400)	-	0.12	1	4
301	-	Shop/Residence Access Road	0.07	From Wildlife Refuge Road (Route 010) to Residence Parking (Route 800)	-	0.07	1	4
400	-	Cold Springs Ditch Road	2.73	From Visitor Parking (Route 900) to Bird Creek Road (Route 401)	-	2.73	1	5
401	-	Bird Creek Road	3.31	From Cold Springs Ditch Road (Route 400) to North Outlet Creek Road (Route 403)	-	3.31	1	5
402	-	North Outlet Creek Road	5.25	From .2 miles Southwest of Lakeside Road to Cold Springs Ditch Road (Route 400)	-	5.25	1	5
403	-	South Outlet Creek Road	2.88	From B Z Glenwood Highway to Lakeside Road	-	2.88	1	5
404	10056856	Kelly Road	0.20	From Kelly Road (County) to end of route	-	0.20	1	5

Conboy Lake - 13522
Route Identification List (Parking)

Shading Color Key:

White = Paved Routes
Green = Unpaved Routes

Route #	Asset Number	ROUTE NAME	Area (Sq Ft)	ROUTE DESCRIPTION	Surface Type
800	10062931	Residence Parking	9,614	From Shop/ Residence Access Road (Route 301)	Gravel
801	10062931	Residence Handicap Parking	348	From Shop/ Residence Access Road (Route 301)	Concrete
802	10062937	Shop/ Maintenance Parking	30,902	From Shop/ Residence Access Road (Route 301)	Gravel
900	10036265	Visitor Parking	13,878	From Wildlife Refuge Road (Route 010)	Gravel
901	10036266	Office Parking	635	From Wildlife Refuge Road (Route 010)	Gravel
904	10036266	Office Handicapped Parking	466	From Wildlife Refuge Road (Route 010)	Concrete
905	10036265	Visitor Handicapped Parking	731	From Wildlife Refuge Road (Route 010)	Concrete

Changes to Fish and Wildlife Service Road Inventory

Conboy Lake NWR

Added

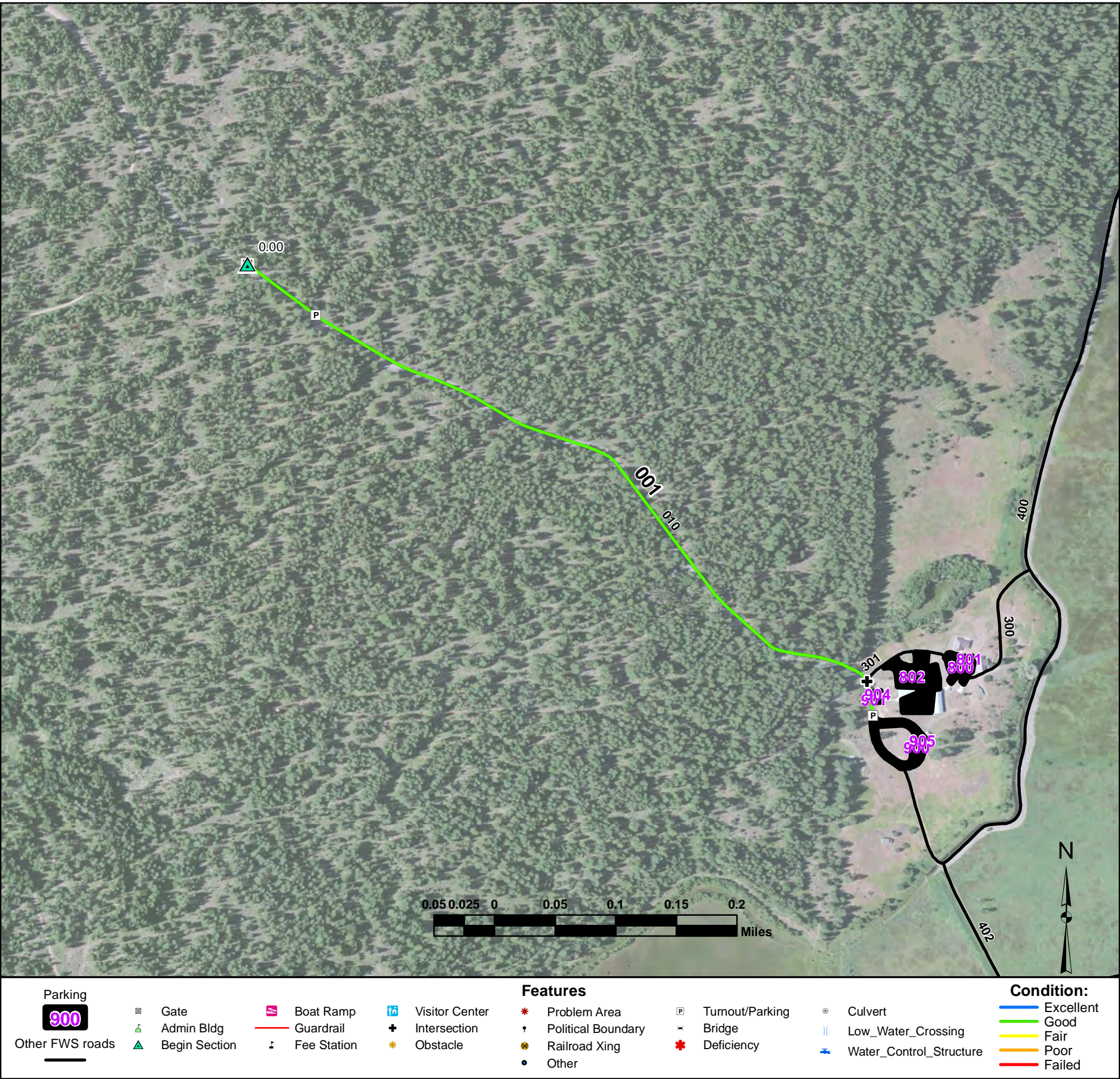
Rte #	Route Name	Description	Comments
100	Lake Road	New Public Route	
300	Rear Shop/Maintenance Access Road	New Administrative Route	
301	Shop/Residence Access Road	New Administrative Route	
400	Cold Springs Ditch Road	New Administrative Route	
401	Bird Creek Road	New Administrative Route	
402	North Outlet Creek Road	New Administrative Route	
403	South Outlet Creek Road	New Administrative Route	
404	Kelly Road	New Administrative Route	
800	Residence Parking	New Administrative Route	
801	Residence Handicap Parking	New Administrative Route	
802	Shop/ Maintenance Parking	New Administrative Route	
901	Office Parking	New Public Route	
905	Visitor Handicapped Parking	New Public Route	

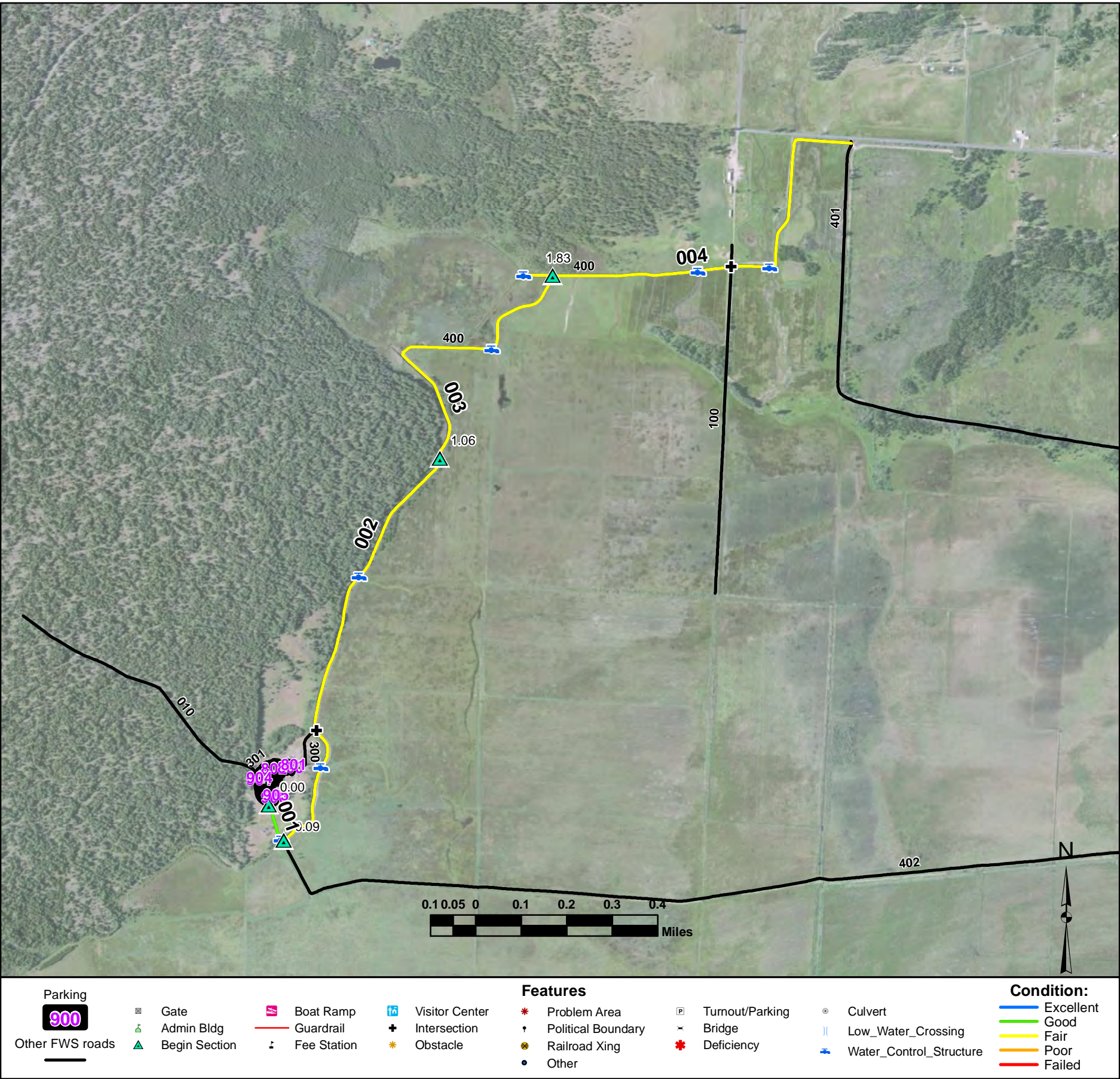
Modified

Rte #	Route Name	Description	Comments
010	Wildlife Refuge Entrance Road	New Geometry	
900	Visitor Parking	New Geometry	
904	Office Handicapped Parking	New Geometry	

Removed

Rte #	Route Name	Description	Comments
902	Willard Trailhead Parking	No Longer Maintained	
903	Glenwood Road Parking	No Longer Maintained	





Problem Area

Political Boundary

Railroad Xing

Other

Turnout/Parking

Bridge

Deficiency

Culvert

Low_Water_Crossing

Water_Control_Structure

Condition:

Excellent

Good

Fair

Poor

Failed

Cold Springs Ditch Road

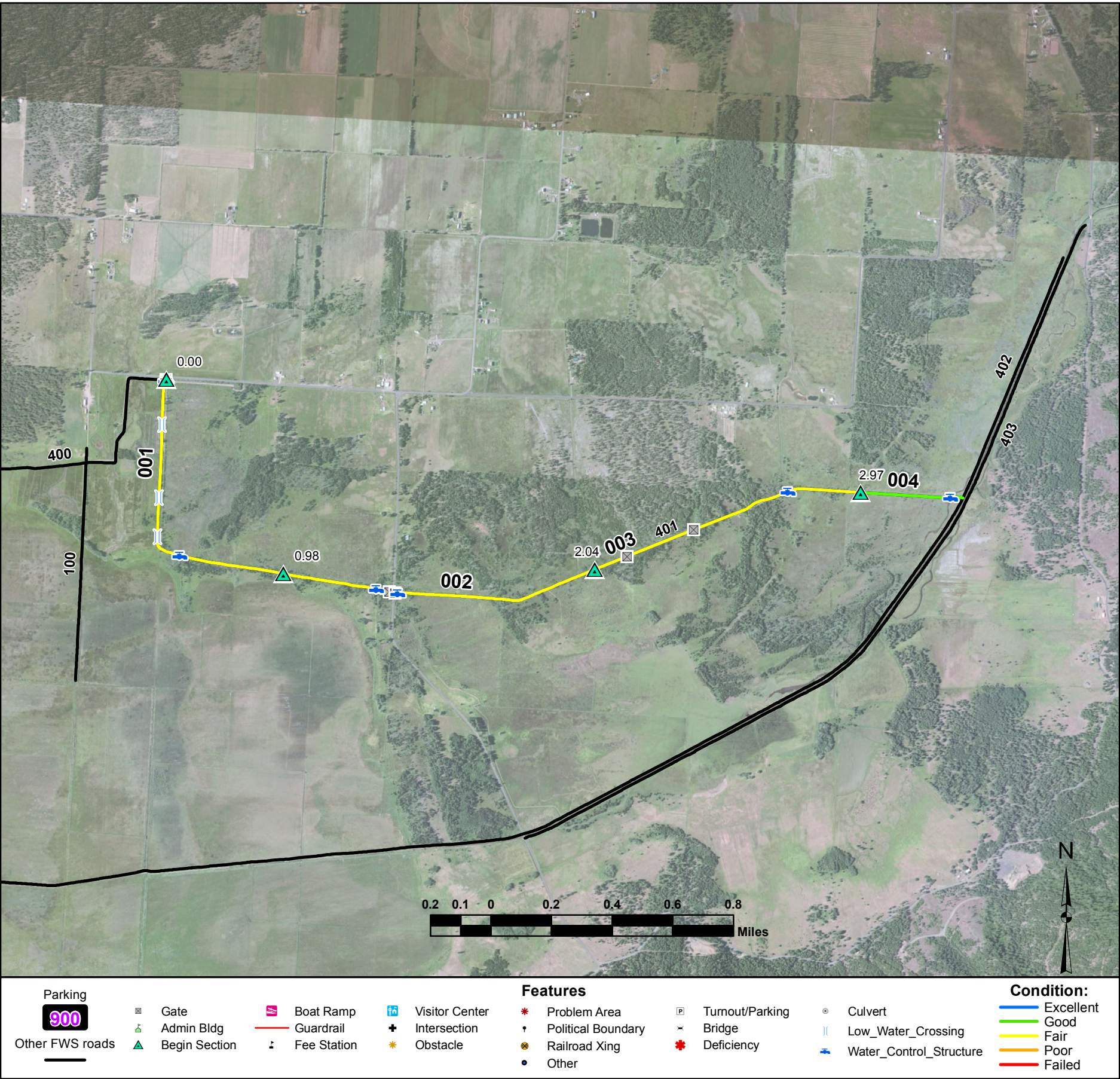
From Visitor Parking (Route 900) to Bird Creek Road (Route 401)

Route Number: 400

Total Route Mileage: 2.73

Asset Number	-	-	-	-	
Section Number	001	002	003	004	
Section Length (miles)	0.09	0.97	0.77	0.90	
Inspection Date	11-06-2012	11-06-2012	11-06-2012	11-06-2012	
Surface Type	Gravel	Native	Native	Native	
Number of Lanes	1	1	1	1	
Roadway Width (feet)	14	14	14	14	
Condition	Good	Fair	Fair	Fair	
Remaining Service Life (years)	7	4	4	4	
Estimated Cost to Repair	\$200	\$2,300	\$1,800	\$2,200	
Current Replacement Value	\$68,900	\$384,300	\$305,100	\$356,600	

Features	Mile Post	Features	Mile Post	Features	Mile Post	Features	Mile Post
Begin Section	001-0.0						
Water Control Structure	001-0.08						
Begin Section	002-0.09						
Water Control Structure	002-0.3						
Intersection	002-0.39						
Water Control Structure	002-0.73						
Begin Section	003-1.06						
Water Control Structure	003-1.54						
Water Control Structure	003-1.83						
Begin Section	004-1.83						
Water Control Structure	004-2.19						
Intersection	004-2.26						
Water Control Structure	004-2.36						



Bird Creek Road

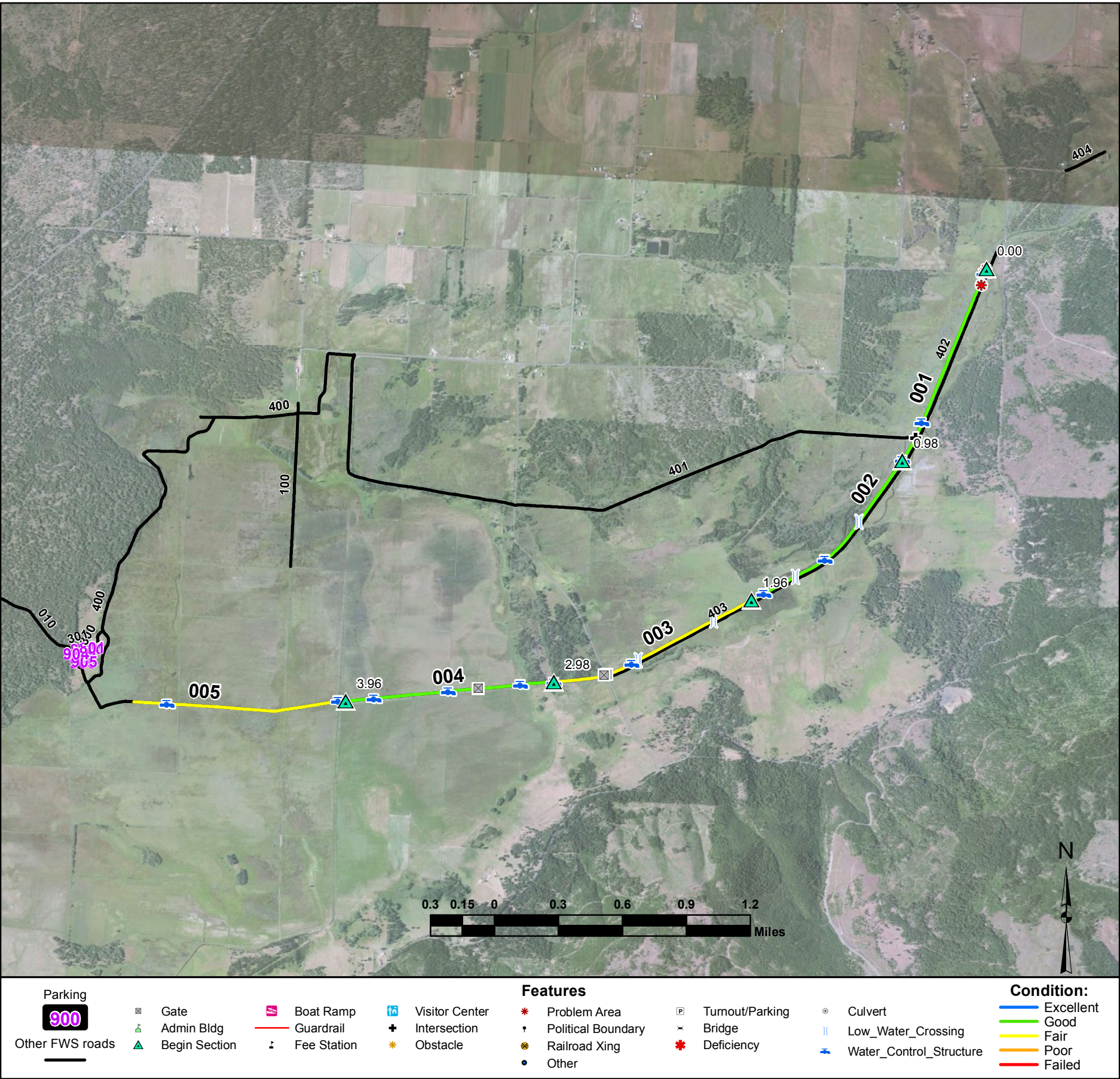
From Cold Springs Ditch Road (Route 400) to North Outlet Creek Road (Route 403)

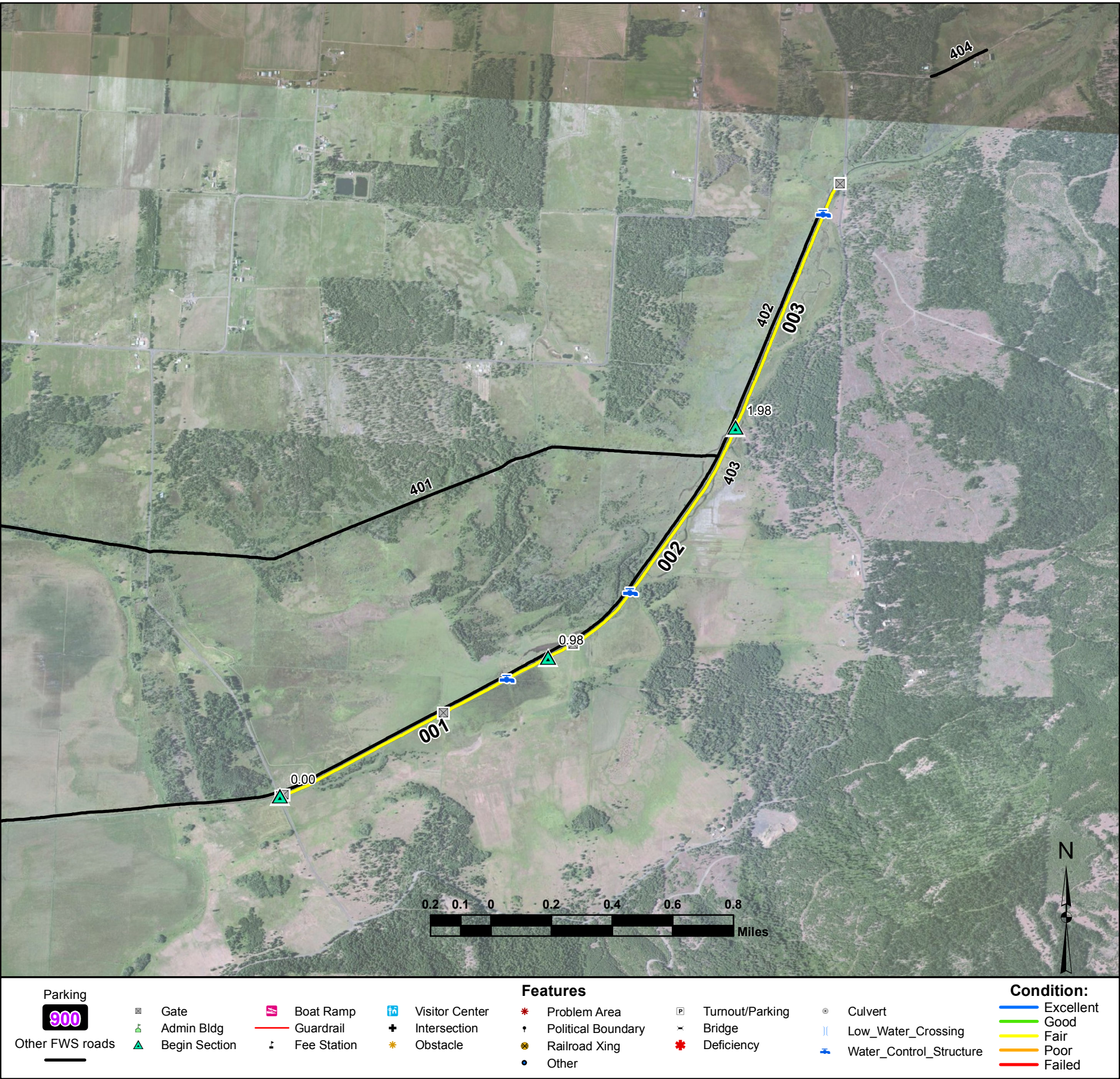
Route Number: 401

Total Route Mileage: 3.31

Asset Number	-	-	-	-	
Section Number	001	002	003	004	
Section Length (miles)	0.98	1.06	0.93	0.34	
Inspection Date	11-06-2012	11-06-2012	11-06-2012	11-06-2012	
Surface Type	Native	Gravel	Native	Native	
Number of Lanes	1	1	1	1	
Roadway Width (feet)	14	14	14	14	
Condition	Fair	Fair	Fair	Good	
Remaining Service Life (years)	4	4	4	5	
Estimated Cost to Repair	\$2,400	\$4,200	\$2,200	\$600	
Current Replacement Value	\$388,300	\$811,900	\$368,500	\$134,700	

Features	Mile Post	Features	Mile Post	Features	Mile Post	Features	Mile Post
Begin Section	001-0.0	Gate	003-2.15				
Water Control Structure	001-0.0	Gate	003-2.39				
Gate	001-0.0	Water Control Structure	003-2.72				
Intersection	001-0.0	Begin Section	004-2.97				
Water Control Structure	001-0.0	Water Control Structure	004-3.27				
Low Water Crossing	001-0.13						
Low Water Crossing	001-0.33						
Low Water Crossing	001-0.44						
Water Control Structure	001-0.56						
Begin Section	002-0.98						
Water Control Structure	002-1.3						
Gate	002-1.34						
Gate	002-1.36						
Water Control Structure	002-1.37						
Begin Section	003-2.04						



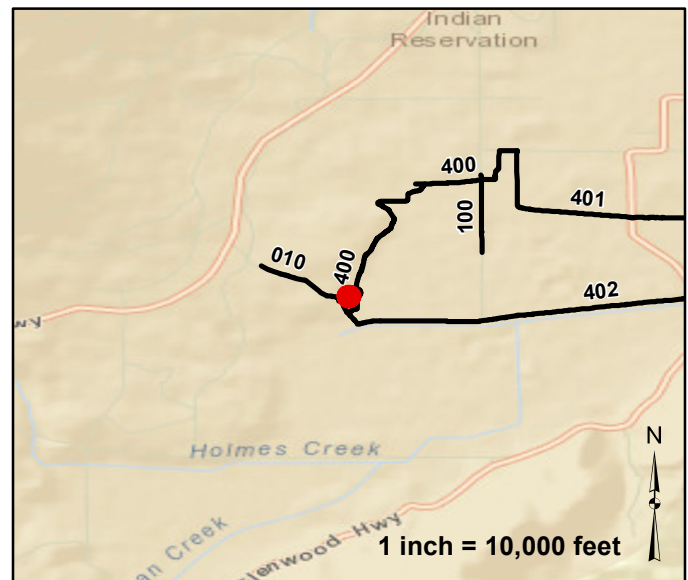
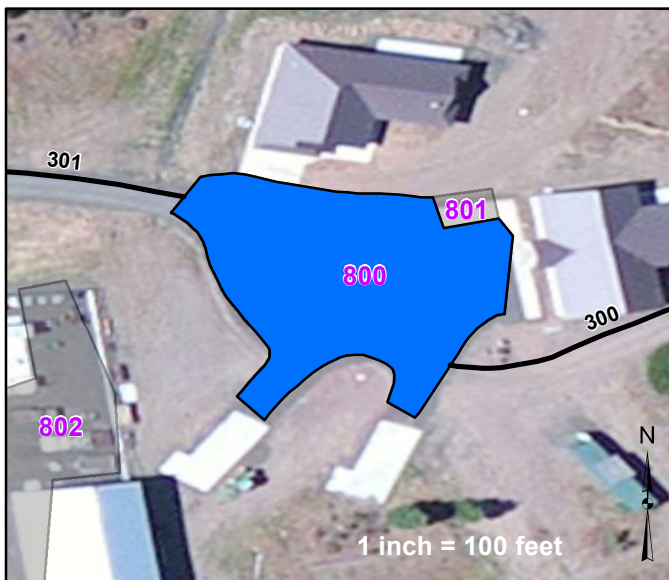


Route Number: 800

Residence Parking

From Shop/ Residence Access Road (Route 301)

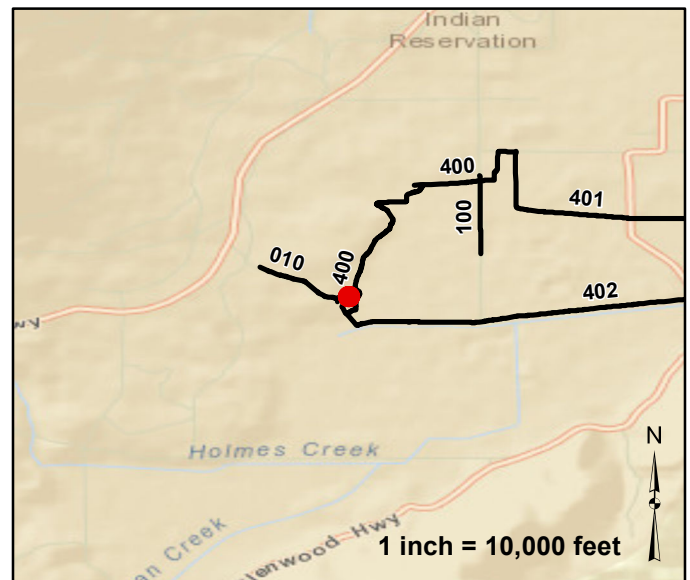
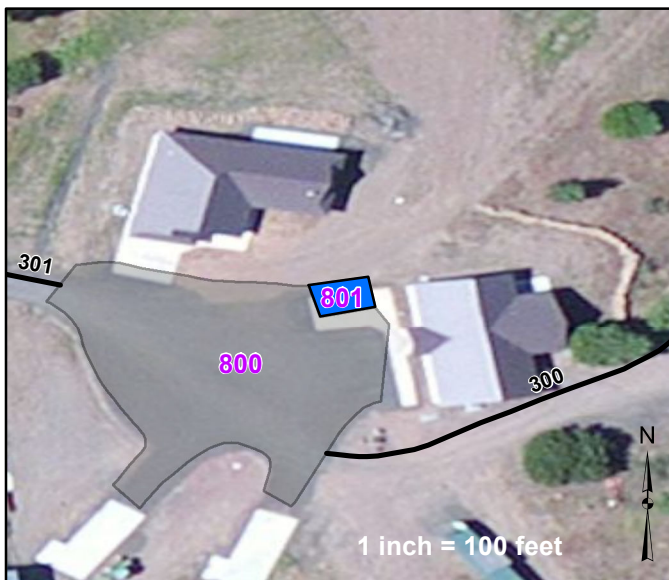
Asset Number	Area (Sq Ft)	Spaces	Condition	Surface Type	Cost to Improve	Inspection Date	Current Replacement Value
10062931	9614	6	Excellent	Gravel	\$0	11-06-2012	\$52,900



Parking		Features				Condition:	
	Gate		Boat Ramp		Visitor Center		Excellent
Other FWS roads	Admin Bldg	Guardrail	Other		Other		Good
	Begin Section	Fee Station	Problem Area		Culvert		Fair
					Low_Water_Crossing		Poor
					Water_Control_Structure		Failed

Route Number: 801
Residence Handicap Parking
From Residence Parking (Route 800)

Asset Number	Area (Sq Ft)	Spaces	Condition	Surface Type	Cost to Improve	Inspection Date	Current Replacement Value
10062931	348	1	Excellent	Concrete	\$0	11-06-2012	\$4,300



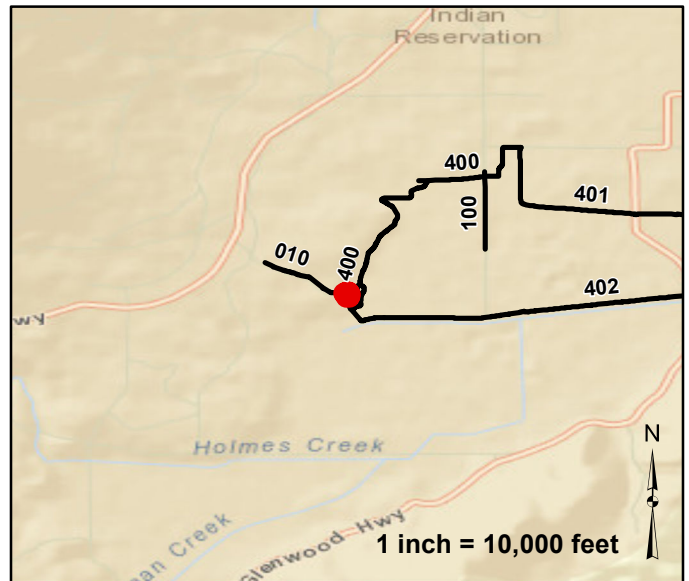
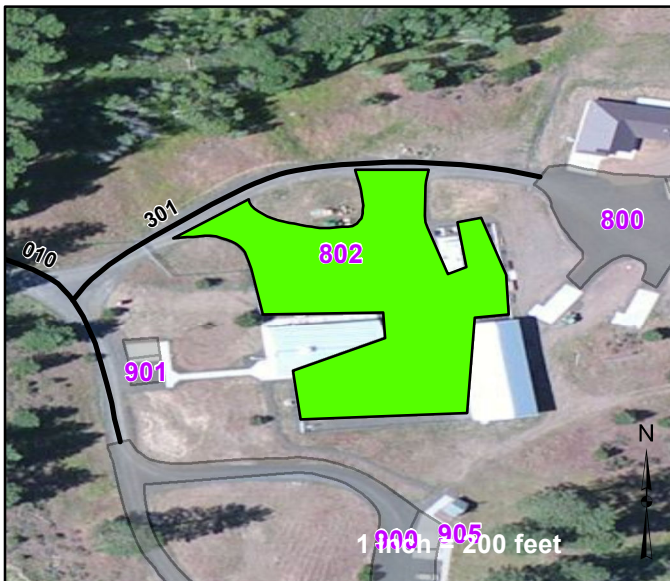
Parking		Features				Condition:	
	Gate		Boat Ramp		Visitor Center		Excellent
Other FWS roads		Admin Bldg		Guardrail		Other	Good
		Begin Section		Fee Station		Problem Area	Fair
						Culvert	Poor
						Low_Water_Crossing	Failed
						Water_Control_Structure	

Route Number: 802

Shop/ Maintenance Parking

From Shop/ Residence Access Road (Route 301)

Asset Number	Area (Sq Ft)	Spaces	Condition	Surface Type	Cost to Improve	Inspection Date	Current Replacement Value
10062937	30902	18	Good	Gravel	\$5,100	11-06-2012	\$169,900



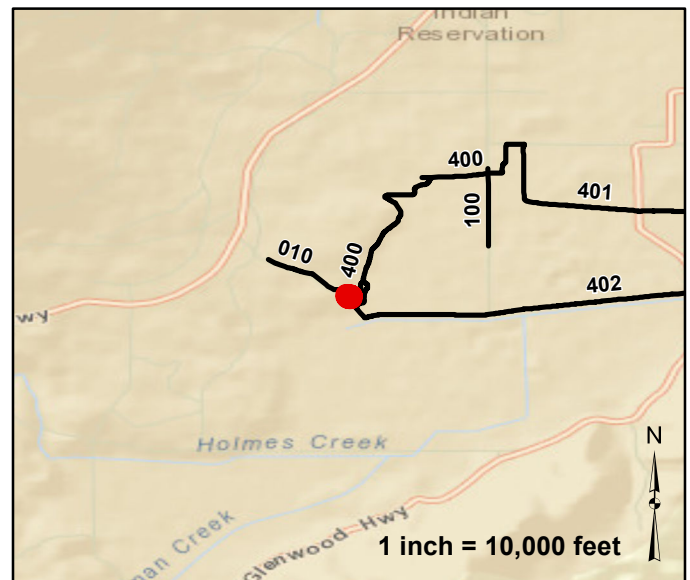
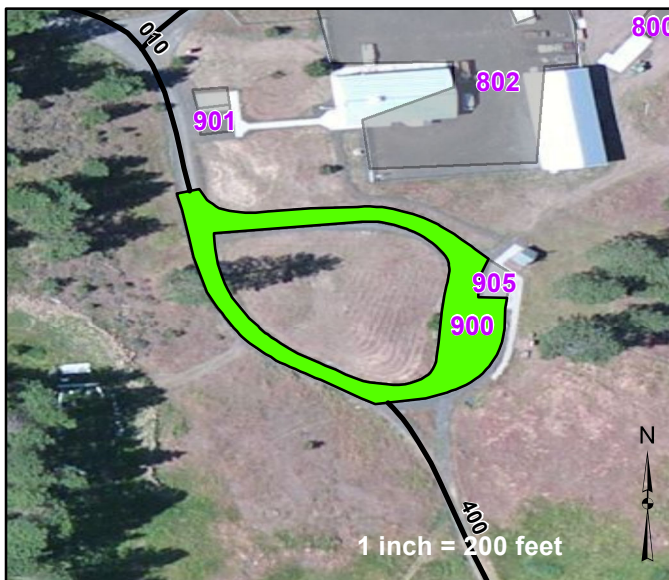
Parking		Features				Condition:	
	Gate		Boat Ramp		Visitor Center		Excellent
Other FWS roads	Admin Bldg	Guardrail	Other	Culvert	Low_Water_Crossing		Good
	Begin Section	Fee Station	Problem Area	Water_Control_Structure			Fair

Route Number: 900

Visitor Parking

From Wildlife Refuge Road (Route 010)

Asset Number	Area (Sq Ft)	Spaces	Condition	Surface Type	Cost to Improve	Inspection Date	Current Replacement Value
10036265	13878	8	Good	Gravel	\$2,300	11-06-2012	\$76,300



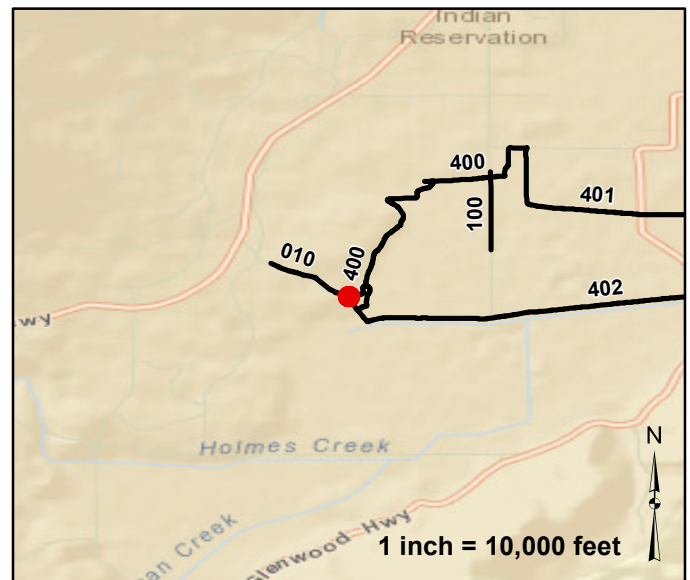
Parking		Features				Condition:	
	Other FWS roads	Gate	Boat Ramp	Visitor Center	Culvert		Excellent
		Admin Bldg	Guardrail	Other	Low Water Crossing		Good
		Begin Section	Fee Station	Problem Area	Water Control Structure		Fair
							Poor
							Failed

Route Number: 901

Office Parking

From Wildlife Refuge Road (Route 010)

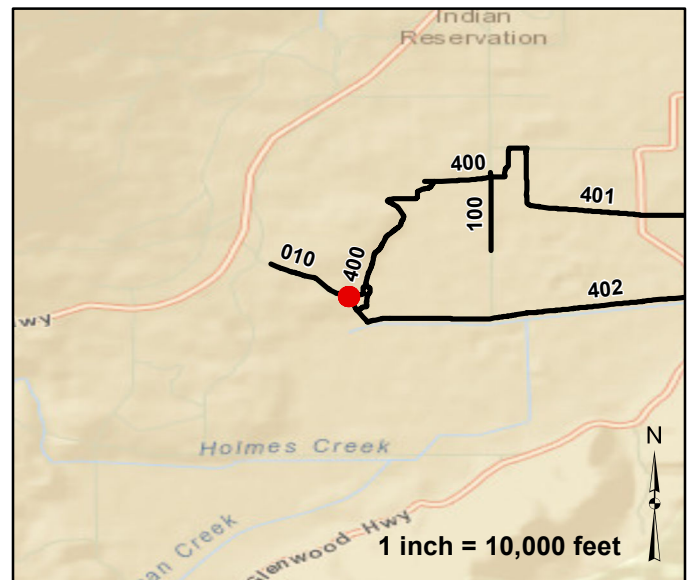
Asset Number	Area (Sq Ft)	Spaces	Condition	Surface Type	Cost to Improve	Inspection Date	Current Replacement Value
10036266	635	3	Good	Gravel	\$100	11-06-2012	\$3,500



Parking		Features				Condition:	
	Gate		Boat Ramp		Visitor Center		Excellent
Other FWS roads	Admin Bldg		Guardrail		Other		Good
	Begin Section		Fee Station		Problem Area		Fair
					Culvert		Poor
					Low_Water_Crossing		Failed
					Water_Control_Structure		

Route Number: 904
Office Handicapped Parking
 From Wildlife Refuge Road (Route 010)

Asset Number	Area (Sq Ft)	Spaces	Condition	Surface Type	Cost to Improve	Inspection Date	Current Replacement Value
10036266	466	1	Good	Concrete	\$100	11-06-2012	\$5,700



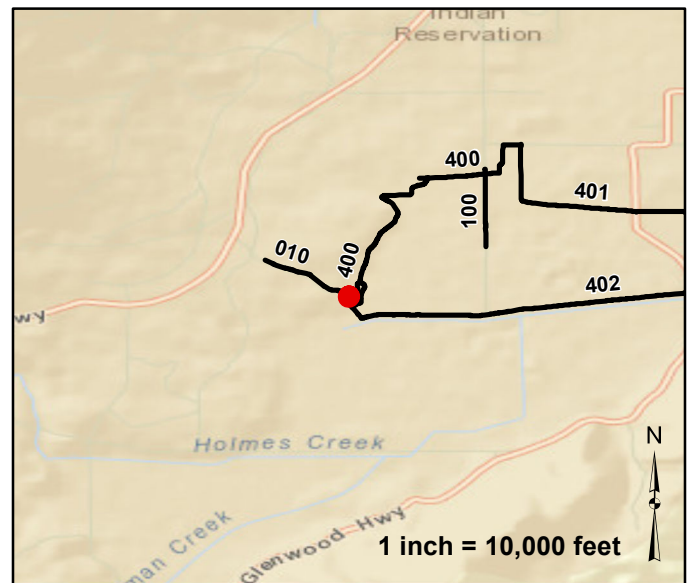
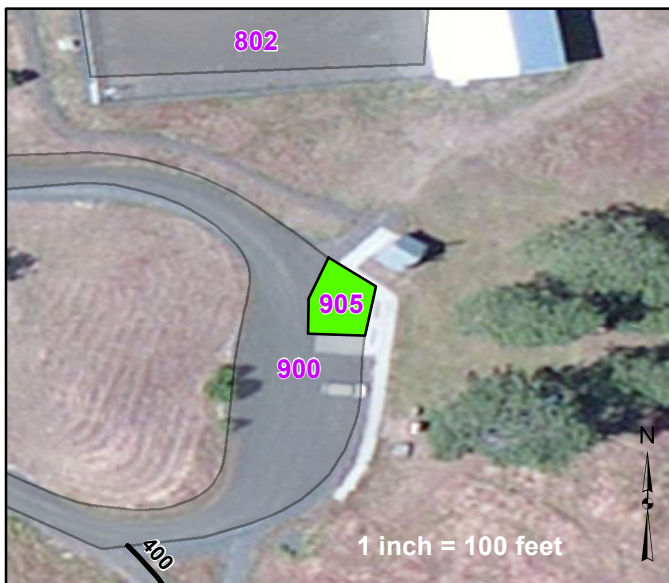
Parking		Features				Condition:	
	Gate		Boat Ramp		Visitor Center		Excellent
Other FWS roads			Guardrail		Other		Good
			Fee Station		Problem Area		Fair
	Admin Bldg				Culvert		Poor
	Begin Section				Low_Water_Crossing		Failed
					Water_Control_Structure		

Route Number: 905

Visitor Handicapped Parking

From Visitor Parking (Route 900)

Asset Number	Area (Sq Ft)	Spaces	Condition	Surface Type	Cost to Improve	Inspection Date	Current Replacement Value
10036265	731	2	Good	Concrete	\$100	11-06-2012	\$8,900



Parking		Features				Condition:	
	Gate		Boat Ramp		Visitor Center		Excellent
	Admin Bldg		Guardrail		Other		Good
	Begin Section		Fee Station		Problem Area		Fair
	Other FWS roads		Culvert		Low_Water_Crossing		Poor
			Water_Control_Structure				Failed

Conboy Lake NWR Bridge Inventory					
Rte #	Milepost	NBIS #	Sufficiency Rating	Functionally Obsolete	Structurally Deficient
No Bridges to Report					

ROUTE: 010

Features Photographs



Photo: COLA_C4_0431 Route: 010-001-0.0
Begin Section



Photo: COLA_C4_0433 Route: 010-001-0.0
Metal Cattle Guard
Asset# NA

ROUTE: 100

Features Photographs



Photo: COLA_C4_0558 Route: 100-001-0.0
Begin Section



Photo: COLA_C4_0559 Route: 100-001-0.0
Metal Open Rail Gate
Asset# NA



Photo: COLA_C4_0560 Route: 100-001-0.61
Metal WCS Flap Gate/Full-Round Riser 40ft long 36in dia.
1ft deep Asset# NA



Photo: COLA_C4_0561 Route: 100-001-0.61
Metal WCS Flap Gate/Full-Round Riser 40ft long 36in dia.
1ft deep Asset# NA



Photo: COLA_C4_0562 Route: 100-001-0.77
Problem Area Water over road unable to pass

ROUTE: 300

Features Photographs



Photo: COLA_C4_0564 Route: 300-001-0.0
Begin Section



Photo: COLA_C4_0565 Route: 300-001-0.11
Metal WCS Flashboard Riser 30ft long 24in dia. 1ft deep
Asset# NA



Photo: COLA_C4_0566 Route: 300-001-0.11
Metal WCS Flashboard Riser 30ft long 24in dia. 1ft deep
Asset# NA

ROUTE: 301

Features Photographs



Photo: COLA_C4_0567 Route: 301-001-0.0
Begin Section



Photo: COLA_C4_0568 Route: 301-001-0.01
Metal Chain Link Gate
Asset# NA



Photo: COLA_C4_0569 Route: 301-001-0.07
Metal Culvert 20ft long 12in dia. 1ft deep
Asset# NA



Photo: COLA_C4_0570 Route: 301-001-0.07
Metal Culvert 20ft long 12in dia. 1ft deep
Asset# NA

ROUTE: 400

Features Photographs



Photo: COLA_C4_0435 Route: 400-001-0.0
Begin Section



Photo: COLA_C4_0436 Route: 400-001-0.08
Metal WCS Flashboard Riser 30ft long 24in dia. 3ft deep
Asset# NA



Photo: COLA_C4_0437 Route: 400-001-0.08
Metal WCS Flashboard Riser 30ft long 24in dia. 3ft deep
Asset# NA



Photo: COLA_C4_0438 Route: 400-002-0.09
Begin Section



Photo: COLA_C4_0439 Route: 400-002-0.3
Metal WCS Flashboard Riser 30ft long 24in dia. 1ft deep
Asset# NA



Photo: COLA_C4_0440 Route: 400-002-0.3
Metal WCS Flashboard Riser 30ft long 24in dia. 1ft deep
Asset# NA 8-005

ROUTE: 400

Features Photographs



Photo: COLA_C4_0441 Route: 400-002-0.73
Metal WCS Flashboard Riser 30ft long 24in dia. 1ft deep
Asset# NA



Photo: COLA_C4_0442 Route: 400-002-0.73
Metal WCS Flashboard Riser 30ft long 24in dia. 1ft deep
Asset# NA



Photo: COLA_C4_0443 Route: 400-003-1.06
Begin Section



Photo: COLA_C4_0444 Route: 400-003-1.54
Metal WCS Flap Gate/Full-Round Riser 40ft long 36in dia.
3ft deep Asset# NA



Photo: COLA_C4_0445 Route: 400-003-1.54
Metal WCS Flap Gate/Full-Round Riser 40ft long 36in dia.
3ft deep Asset# NA



Photo: COLA_C4_0446 Route: 400-003-1.83
Metal WCS Flashboard Riser 30ft long 24in dia. 2ft deep
Asset# NA 8-006

ROUTE: 400

Features Photographs



Photo: COLA_C4_0447 Route: 400-003-1.83
Metal WCS Flashboard Riser 30ft long 24in dia. 2ft deep
Asset# NA



Photo: COLA_C4_0448 Route: 400-004-1.83
Begin Section



Photo: COLA_C4_0449 Route: 400-004-2.19
Metal WCS Flashboard Riser 30ft long 24in dia. 1ft deep
Asset# NA



Photo: COLA_C4_0450 Route: 400-004-2.19
Metal WCS Flashboard Riser 30ft long 24in dia. 1ft deep
Asset# NA



Photo: COLA_C4_0451 Route: 400-004-2.36
Metal WCS Flashboard Riser 30ft long 24in dia. 3ft deep
Asset# NA



Photo: COLA_C4_0452 Route: 400-004-2.36
Metal WCS Flashboard Riser 30ft long 24in dia. 3ft deep
Asset# NA 8-007

ROUTE: 401

Features Photographs



Photo: COLA_C4_0453 Route: 401-001-0.0
Begin Section



Photo: COLA_C4_0454 Route: 401-001-0.0
Metal Open Rail Gate
Asset# NA



Photo: COLA_C4_0455 Route: 401-001-0.0
Metal WCS Flashboard Riser 30ft long 24in dia. 3ft deep
Asset# NA



Photo: COLA_C4_0456 Route: 401-001-0.0
Metal WCS Flashboard Riser 30ft long 24in dia. 3ft deep
Asset# NA



Photo: COLA_C4_0457 Route: 401-001-0.0
Metal WCS Screw Gate 45ft long 24in dia. 3ft deep
Asset# NA



Photo: COLA_C4_0458 Route: 401-001-0.0
Metal WCS Screw Gate 45ft long 24in dia. 3ft deep
Asset# NA

ROUTE: 401

Features Photographs



Photo: COLA_C4_0459 Route: 401-001-0.13
Gravel Low Water Xing 30.0ft long 15.0ft wide
Asset# NA



Photo: COLA_C4_0460 Route: 401-001-0.33
Gravel Low Water Xing 35.0ft long 15.0ft wide
Asset# NA



Photo: COLA_C4_0461 Route: 401-001-0.44
Gravel Low Water Xing 30.0ft long 15.0ft wide
Asset# NA



Photo: COLA_C4_0462 Route: 401-001-0.56
Metal WCS Flashboard Riser 36ft long 25in dia. 1ft deep
Asset# NA



Photo: COLA_C4_0463 Route: 401-001-0.56
Metal WCS Flashboard Riser 36ft long 25in dia. 1ft deep
Asset# NA



Photo: COLA_C4_0464 Route: 401-002-0.98
Begin Section

ROUTE: 401

Features Photographs



Photo: COLA_C4_0465 Route: 401-002-1.3
Metal WCS Flashboard Riser 30ft long 24in dia. 1ft deep
Asset# NA



Photo: COLA_C4_0466 Route: 401-002-1.3
Metal WCS Flashboard Riser 30ft long 24in dia. 1ft deep
Asset# NA



Photo: COLA_C4_0467 Route: 401-002-1.34
Metal Open Rail Gate
Asset# NA



Photo: COLA_C4_0468 Route: 401-002-1.36
Metal Open Rail Gate
Asset# NA



Photo: COLA_C4_0469 Route: 401-002-1.37
Metal WCS Flashboard Riser 30ft long 24in dia. 2ft deep
Asset# NA



Photo: COLA_C4_0470 Route: 401-002-1.37
Metal WCS Flashboard Riser 30ft long 24in dia. 2ft deep
Asset# NA 8-010

ROUTE: 401

Features Photographs



Photo: COLA_C4_0471 Route: 401-003-2.04
Begin Section



Photo: COLA_C4_0472 Route: 401-003-2.15
Metal Open Rail Gate
Asset# NA



Photo: COLA_C4_0476 Route: 401-003-2.39
Metal Open Rail Gate
Asset# NA



Photo: COLA_C4_0477 Route: 401-003-2.72
Metal WCS Flashboard Riser 30ft long 24in dia. 2ft deep
Asset# NA



Photo: COLA_C4_0478 Route: 401-003-2.72
Metal WCS Flashboard Riser 30ft long 24in dia. 2ft deep
Asset# NA



Photo: COLA_C4_0479 Route: 401-004-2.97
Begin Section

ROUTE: 401

Features Photographs



Photo: COLA_C4_0480 Route: 401-004-3.27
Metal WCS Flashboard Riser 35ft long 24in dia. 4ft deep
Asset# NA



Photo: COLA_C4_0481 Route: 401-004-3.27
Metal WCS Flashboard Riser 35ft long 24in dia. 4ft deep
Asset# NA

ROUTE: 402

Features Photographs



Photo: COLA_C4_0483 Route: 402-001-0.0
Begin Section



Photo: COLA_C4_0482 Route: 402-001-0.0
Problem Area Route underwater at this point



Photo: COLA_C4_0484 Route: 402-001-0.02
Metal WCS Flashboard Riser 30ft long 36in dia. 3ft deep
Asset# NA



Photo: COLA_C4_0485 Route: 402-001-0.02
Metal WCS Flashboard Riser 30ft long 36in dia. 3ft deep
Asset# NA



Photo: COLA_C4_0486 Route: 402-001-0.77
Plastic WCS Flashboard Riser 40ft long 36in dia. 4ft deep
Asset# NA



Photo: COLA_C4_0487 Route: 402-001-0.77
Plastic WCS Flashboard Riser 40ft long 36in dia. 4ft deep
Asset# NA
8-013

ROUTE: 402

Features Photographs



Photo: COLA_C4_0488 Route: 402-001-0.98
Metal WCS Flashboard Riser 40ft long 48in dia. 3ft deep
Asset# NA



Photo: COLA_C4_0489 Route: 402-001-0.98
Metal WCS Flashboard Riser 40ft long 48in dia. 3ft deep
Asset# NA



Photo: COLA_C4_0490 Route: 402-002-0.98
Begin Section



Photo: COLA_C4_0494 Route: 402-002-1.31
Gravel Low Water Xing 30.0ft long 15.0ft wide
Asset# NA



Photo: COLA_C4_0495 Route: 402-002-1.53
Metal WCS Flashboard Riser 30ft long 48in dia. 3ft deep
Asset# NA



Photo: COLA_C4_0496 Route: 402-002-1.53
Metal WCS Flashboard Riser 30ft long 48in dia. 3ft deep
Asset# NA
8-014

ROUTE: 402

Features Photographs



Photo: COLA_C4_0497 Route: 402-002-1.71
Gravel Low Water Xing 40.0ft long 20.0ft wide
Asset# NA



Photo: COLA_C4_0498 Route: 402-002-1.89
Metal WCS Flashboard Riser 30ft long 48in dia. 4ft deep
Asset# NA



Photo: COLA_C4_0499 Route: 402-002-1.89
Metal WCS Flashboard Riser 30ft long 48in dia. 4ft deep
Asset# NA



Photo: COLA_C4_0500 Route: 402-003-1.96
Begin Section



Photo: COLA_C4_0501 Route: 402-003-2.16
Gravel Low Water Xing 70.0ft long 20.0ft wide
Asset# NA



Photo: COLA_C4_0502 Route: 402-003-2.55
Gravel Low Water Xing 20.0ft long 15.0ft wide
Asset# NA

ROUTE: 402

Features Photographs



Photo: COLA_C4_0503 Route: 402-003-2.59
Metal WCS Flashboard Riser 30ft long 48in dia. 3ft deep
Asset# NA



Photo: COLA_C4_0504 Route: 402-003-2.59
Metal WCS Flashboard Riser 30ft long 48in dia. 3ft deep
Asset# NA



Photo: COLA_C4_0505 Route: 402-003-2.71
Metal Open Rail Gate
Asset# NA



Photo: COLA_C4_0506 Route: 402-003-2.73
Metal Open Rail Gate
Asset# NA



Photo: COLA_C4_0510 Route: 402-003-2.98
Metal WCS Flashboard Riser 30ft long 36in dia. 3ft deep
Asset# NA



Photo: COLA_C4_0511 Route: 402-003-2.98
Metal WCS Flashboard Riser 30ft long 36in dia. 3ft deep
Asset# NA 8-016

ROUTE: 402

Features Photographs



Photo: COLA_C4_0512 Route: 402-004-2.98
Begin Section



Photo: COLA_C4_0515 Route: 402-004-3.13
Metal WCS Flashboard Riser 24ft long 30in dia. 3ft deep
Asset# NA



Photo: COLA_C4_0516 Route: 402-004-3.13
Metal WCS Flashboard Riser 24ft long 30in dia. 3ft deep
Asset# NA



Photo: COLA_C4_0518 Route: 402-004-3.34
Metal Gate Barbed Wire
Asset# NA



Photo: COLA_C4_0519 Route: 402-004-3.47
Metal WCS Screw Gate 30ft long 24in dia. 3ft deep
Asset# NA



Photo: COLA_C4_0520 Route: 402-004-3.47
Metal WCS Screw Gate 30ft long 24in dia. 3ft deep
Asset# NA

ROUTE: 402

Features Photographs



Photo: COLA_C4_0521 Route: 402-004-3.83
Metal WCS Flashboard Riser 30ft long 24in dia. 3ft deep
Asset# NA



Photo: COLA_C4_0522 Route: 402-004-3.83
Metal WCS Flashboard Riser 30ft long 24in dia. 3ft deep
Asset# NA



Photo: COLA_C4_0523 Route: 402-005-3.96
Begin Section



Photo: COLA_C4_0524 Route: 402-005-3.99
Metal WCS Flashboard Riser 35ft long 48in dia. 4ft deep
Asset# NA



Photo: COLA_C4_0525 Route: 402-005-3.99
Metal WCS Flashboard Riser 35ft long 48in dia. 4ft deep
Asset# NA



Photo: COLA_C4_0526 Route: 402-005-4.8
Metal WCS Flashboard Riser 30ft long 36in dia. 3ft deep
Asset# NA 8-018

ROUTE: 402

Features Photographs



Photo: COLA_C4_0527 Route: 402-005-4.8
Metal WCS Flashboard Riser 30ft long 36in dia. 3ft deep
Asset# NA



Photo: COLA_C4_0528 Route: 402-006-4.96
Begin Section

ROUTE: 403

Features Photographs



Photo: COLA_C4_0536 Route: 403-001-0.0
Begin Section



Photo: COLA_C4_0537 Route: 403-001-0.01
Metal Gate Barbed Wire
Asset# NA



Photo: COLA_C4_0538 Route: 403-001-0.02
Metal Gate Barbed Wire
Asset# NA



Photo: COLA_C4_0539 Route: 403-001-0.61
Metal Gate Barbed Wire
Asset# NA



Photo: COLA_C4_0540 Route: 403-001-0.85
Metal WCS Flashboard Riser 25ft long 36in dia. 2ft deep
Asset# NA



Photo: COLA_C4_0541 Route: 403-001-0.85
Metal WCS Flashboard Riser 25ft long 36in dia. 2ft deep
Asset# NA 8-020

ROUTE: 403

Features Photographs



Photo: COLA_C4_0542 Route: 403-002-0.98
Begin Section



Photo: COLA_C4_0543 Route: 403-002-1.09
Metal Gate Barbed Wire
Asset# NA



Photo: COLA_C4_0544 Route: 403-002-1.36
Metal WCS Flashboard Riser 35ft long 36in dia. 4ft deep
Asset# NA



Photo: COLA_C4_0545 Route: 403-002-1.36
Metal WCS Flashboard Riser 35ft long 36in dia. 4ft deep
Asset# NA



Photo: COLA_C4_0546 Route: 403-003-1.98
Begin Section



Photo: COLA_C4_0547 Route: 403-003-2.74
Metal WCS Flashboard Riser 30ft long 24in dia. 4ft deep
Asset# NA 8-021

ROUTE: 403

Features Photographs



Photo: COLA_C4_0548 Route: 403-003-2.74
Metal WCS Flashboard Riser 30ft long 24in dia. 4ft deep
Asset# NA



Photo: COLA_C4_0549 Route: 403-003-2.86
Metal Open Rail Gate
Asset# NA

ROUTE: 404

Features Photographs



Photo: COLA_C4_0550 Route: 404-001-0.0
Begin Section



Photo: COLA_C4_0551 Route: 404-001-0.0
Metal Open Rail Gate
Asset# NA

Accident Summary

Number of Accidents Reported	Timespan of Accidents	Injuries	Fatalities
0	No Accidents to Report	0	0

APPENDIX

TABLE 1 - GENERAL FWS ROAD FUNCTIONAL CLASSIFICATION	
Class I	Principal Refuge Road (Public Roads) - Routes that constitute the main access route, main auto tour route, or thoroughfare for refuge visitors. These routes are accessible by 2WD vehicles. Routes are numbered from 10 to 99.
Class II	Connector Refuge Road (Public Roads) - Routes that provide circulation within the refuge. These routes can also provide access to areas of scenic, scientific, recreational or cultural interest, such as overlooks, campgrounds, education centers, etc. These routes are accessible by 2WD vehicles. Routes are numbered from 100 to 199.
Class III	Special Purpose Refuge Road (Public Roads) - Roads that provide circulation within special use areas such as campgrounds or public concessionaire facilities or access to remote areas of the refuge. These routes may not be 2WD accessible. Routes are numbered from 200 to 299
Class IV	Administrative Access Road (Administrative Roads) - Routes intended for access to administrative developments or structures such as maintenance offices, employee quarters, or utility areas. These routes are accessible by 2WD vehicles. These routes may restrict access to the general public. Routes are numbered from 300 to 399.
Class V	Restricted Road (Administrative Roads) - Routes normally closed to the public, such as maintenance roads, service roads, patrol roads, and fire breaks. These routes may be open to the public for a short period of time for a special use, such as hunting access. These routes may not be 2WD accessible. Routes are numbered from 400 to 499.

A refuge road system contains those routes within or giving access to a refuge or other unit of the FWS that are administered by the FWS, or by the Service in cooperation with other agencies. The assignment of a functional classification (FC) to a refuge road is not based on traffic volumes or design speed, but on the intended use or function of that route

DESCRIPTION OF RATING SYSTEM

Rating Data is collected on four different surface types: Asphalt, Concrete, Gravel, and Native. The Utah LTAP Center's Remaining Service Life (RSL) system is used for all surface types. The RSL system is based on the Strategic Highway Research Program's (SHRP) Distress Identification Manual.

Asphalt Rating System

Data is collected on the following distresses and conditions:

- **Fatigue Cracking** - Interconnected cracks forming small irregular shapes.
- **Longitudinal Cracking** - Cracks running parallel with the roadway, in the direction of traffic.
- **Transverse Cracking** - Cracks perpendicular to the roadway, going across the lane or lanes.
- **Block Cracking** - Interconnected cracks forming large blocks.
- **Edge Cracking** - Cracks running along the edge of the pavement surface.
- **Patches** - Original surface repaired with new asphalt patch material.
- **Potholes** - Holes or depressions in the pavement.
- **Rutting** - surface depressions in the wheel paths.
- **Roughness** - Evenness of pavement for serviceability.
- **Drainage** - Ability of the road surface to drain water based on proper slope.

A Condition Rating value is calculated for each homogenous pavement section, and can be up to 1 mile in length.

Rating Index Formula

Fatigue, longitudinal, transverse, block, and edge cracking, along with patching and potholes are rated on a 0 - 9 scale (0 = no distress, 9 = maximum distress). The rating given is based on the extent and the severity of the distress. Rutting, roughness, and drainage are rated on a 0 - 3 scale (0 = excellent, 3 = poor). Each distress type has given Remaining Service Life (RSL) values (in years) based on the rating for that particular distress. The distress with the rating resulting in the lowest RSL value is considered to be the governing distress. That value is then assigned as the RSL of the road segment.

Concrete Rating System

Data is collected on the following distresses and conditions:

- **Spalling of Joints** - Chipping, breaking, or cracking of slab edges
- **Joint Seal Damage** - Any damage or condition that enables materials or water to infiltrate into the joint from the surface.
- **Corner Breaks** - A portion of the slab separated by a crack that intersects the adjacent transverse and longitudinal joints, forming approximately a 45° angle to the direction.
- **Broken Slabs** - Faulting and/or cracking localized to individual slabs.

- **Faulting** – Difference in elevation across a crack or joint.
- **Longitudinal Cracking** – Cracks in the pavement running parallel to road.
- **Transverse Cracking** - Cracks in the pavement running perpendicular to the direction of traffic.
- **Patch Deterioration** – Faulting, settling, or cracking of previously placed patch
- **Map Cracking** – A series of cracks that extend only into the upper surface of the Slab

A Condition Rating value is calculated for each homogenous pavement section, and can be up to 1 mile in length.

Rating Index Formula

The rating procedure for concrete pavement is the same as that for asphalt pavement described previously. Each of the distresses described above are rated on the same 0 – 9 scale. The governing distress is then determined and the RSL associated with that distress is assigned to the road segment.

Gravel and Native Rating System

Data is collected on the following distresses and conditions:

- **Cross Section (Crown)** - Roadway built so that the center is higher than the shoulder, to prevent water from pooling on roadway.
- **Roadside Drainage** - Roadside ditches and culverts to handle water flow and prevent pooling on the roadside.
- **Corrugations (Washboarding)** - Small trenches or holes developing perpendicular to the roadway.
- **Potholes** - Holes or depressions in the roadway.
- **Rutting** - Depressions running parallel with the roadway, in the wheelpaths.
- **Dust** - Amount of dust caused by traffic.
- **Loose Aggregate (Gravel Only)** - Loose gravel, typically piled up on the roadway edges or centerline.

A Condition Rating value is calculated for each homogenous pavement section, and can be up to 1 mile in length.

Rating Index Formula

The rating procedure for unpaved roads is the same as that for asphalt and concrete pavements described previously. Of the distresses described above, corrugations, potholes, rutting, and loose aggregate are rated on the same 0 – 9 scale previously mentioned. Cross section, roadside drainage, and dust are rated on the same 0 – 3 scale described for asphalt pavement. The governing distress is then determined and the RSL associated with that distress is assigned to the road segment.

Condition Descriptions by Surface Type

The following definitions are used to describe pavement condition for the various surface types. These are general guidelines for condition indications.

Asphalt

Excellent – Recently constructed or overlaid road where construction or overlay was performed correctly- No maintenance required. RSL = 19-20 years.

Good – Low extent longitudinal and transverse cracks. All cracks are 1/4" or less with little or no crack erosion. Patches are in good condition and applied correctly. Routine Maintenance recommended. RSL = 13-18 years.

Fair - Roads are in good structural condition with little or no fatigue cracking. Longitudinal, transverse, and edge cracking is at medium extent and severity. Block cracking is not extensive. Any patches are in good condition. Preventative maintenance recommended. RSL = 7-12 years.

Poor - Road beginning to show signs of structural distress. Fatigue cracking is medium to high extent and medium severity. Cracking will be severe. Surface may have severe block cracking and show. Patches are in fair to poor condition. There is moderate distortion or rutting and occasional potholes. Rehabilitation recommended. RSL = 1-6 years.

Failed - Road is severely deteriorated. Signs of structural failure appear along with severe and extensive fatigue cracking, distortion, potholes, or extensive patches in poor condition. Reconstruction recommended. RSL = 0 years.

Concrete

Excellent - New pavement. No maintenance required. RSL = 19-20 years

Good - First signs of transverse cracking, patch or repair, more extensive pop-outs, or scaling. Sealing or routine maintenance recommended. RSL = 13-18 years.

Fair – Pavement has joint or crack spalling, and/or faulting, along with cracking at corners with broken pieces. Any Patches are in fair condition and faulting is at a minimum. Preventative maintenance recommended. RSL = 7-12 years.

Poor - Joints and cracks are open 1 inch, spalled, or patched. Faulting is more severe. Rehabilitation recommended. RSL = 1-6 years.

Failed - Most slabs have failed structurally, and faulting is severe. Reconstruction recommended. RSL = 0 years.11-9

The following table shows the relationship between RSL and condition.

SUBJECTIVE CONDITION RATING FOR REMAINING SERVICE LIFE (Asphalt and Concrete Pavements)								
	FAILED	POOR		FAIR		GOOD		EXCELLENT
RSL Years	0	1-3	4-6	7-9	10-12	13-15	16-18	19-20

Gravel and Native

Note - Native surfaces do not have a gravel layer.

Excellent - Newly constructed road that has been constructed properly with proper crown, drainage and gravel layer. Little or no distress. No maintenance recommended. RSL = 8-10 years.

Good - Crown, drainage provisions, and gravel layer are in good condition. Distress limited to traffic effects such as dust, loose aggregate, and low severity corrugations (wash boarding). RSL = 5-7 years.

Fair - Adequate drainage and crown through majority of roadway. Crown repair, ditch improvement may be necessary. Road has more severe corrugations and potholes. Preventative maintenance recommended. RSL = 3-4 years.

Poor - Travel at slow speeds is necessary. Additional gravel layer needed to carry traffic. Poor crown. Ditching is inadequate and rutting is extensive and severe. Rehabilitation recommended. RSL = 1-2 years.

Failed - Travel is difficult, and road may be closed at times. Rutting and Corrugations are very severe. Total Reconstruction of road is recommended. RSL = 0 years.

The following table shows the RSL values for gravel and native roads in terms of excellent, good, fair, poor, and failed condition.

SUBJECTIVE CONDITION RATING FOR REMAINING SERVICE LIFE (Gravel and Native Surfaces)					
	FAILED	POOR	FAIR	GOOD	EXCELLENT
RSL Years	0	1-2	3-4	5-7	8-10

NATIVE PRIMITIVE/IMPROVED RATING SHEET

<u>Cross Section (Crown)*</u>			
Severity	Condition		Description
	No Defects	0	Crown 4-6" with no restriction of water flow from centerline to ditch.
	Minor Defects	1	Inadequate or inconsistent crown. Drainage to ditch may be restricted.
	Moderate Defects	2	Flat crown, drainage to ditch restricted.
	Major Defects	3	Reverse crown, bowl-shaped road, drainage on roadway

<u>Rutting</u>				
Severity	Extent (Length)			
	No Defects	Low <10%	Med 10-30%	High >30%
	Low < 6"	1	2	3
	Med 6-12"	4	5	6
	High > 12"	7	8	9

<u>Roadside Drainage*</u>			
Severity	Condition		Description
	No Defects	0	Wide, deep ditches (>4') with no restriction to water flow.
	Minor Defects	1	Adequate ditches (>2' deep), minor obstructions restrict water flow.
	Moderate Defects	2	Shallow, narrow and obstructed ditches. Minor erosion of road.
	Major Defects	3	No ditch, drainage on roadway with moderate to severe erosion.

<u>Potholes</u>				
Severity	Extent (Area)			
	No Defects	Low <10%	Med 10-30%	High >30%
	Low < 6"	1	2	3
	Med 6-12"	4	5	6
	High > 12"	7	8	9

<u>Dust</u>			
Severity	Condition		Description
	No Defects	0	No obstruction to sight distance.
	Minor Defects	1	Sight distance > 550'
	Moderate Defects	2	Sight distance 225'-550'
	Major Defects	3	Sight distance < 225'

<u>Corrugations</u>				
Severity	Extent (Length)			
	No Defects	Low <10%	Med 10-30%	High >30%
	Low < 3"	1	2	3
	Med 3-6"	4	5	6
	High > 6"	7	8	9

* Crown and Drainage are not rated for roads that have no constructed crown or drainage. This applies to Native and Gravel roads.

GRAVEL RATING SHEET

Cross Section (Crown)

Severity	Condition		Description
	No Defects	0	Crown 4-6" with no restriction of water flow from centerline to ditch.
	Minor Defects	1	Inadequate or inconsistent crown. Drainage to ditch may be restricted.
	Moderate Defects	2	Flat crown, drainage to ditch restricted.
	Major Defects	3	Reverse crown, bowl-shaped road, drainage on roadway

Rutting

Severity	No Defects	Extent (Length)		
		Low <10%	Med 10-30%	High >30%
	Low < 1"	1	2	3
	Med 1-3"	4	5	6
	High > 3"	7	8	9

Roadside Drainage

Severity	Condition		Description
	No Defects	0	Wide, deep ditches (>4') with no restriction to water flow.
	Minor Defects	1	Adequate ditches (>2' deep), minor obstructions restrict water flow.
	Moderate Defects	2	Shallow, narrow and obstructed ditches. Minor erosion of road.
	Major Defects	3	No ditch, drainage on roadway with moderate to severe erosion.

Potholes

Severity	No Defects	Extent (Area)		
		Low <10%	Med 10-30%	High >30%
	Low < 1"	1	2	3
	Med 1-3"	4	5	6
	High > 3"	7	8	9

Dust

Severity	Condition		Description
	No Defects	0	No obstruction to sight distance.
	Minor Defects	1	Sight distance > 550'
	Moderate Defects	2	Sight distance 225'-550'
	Major Defects	3	Sight distance < 225'

Corrugations

Severity	No Defects	Extent (Length)		
		Low <10%	Med 10-30%	High >30%
	Low < 2"	1	2	3
	Med 2-4"	4	5	6
	High > 4"	7	8	9

* Crown and Drainage are not rated for roads that have no constructed crown or drainage. This applies to Native and Gravel roads.

Loose Aggregate

Severity	No Defects	Extent (Area)		
		Low <10%	Med 10-30%	High >30%
	Low < 1"	1	2	3
	Med 1-3"	4	5	6
	High > 3"	7	8	9

ASPHALT RATING SHEET

Fatigue Cracking

Severity	Extent			
	No Defects	Low 1 crack WP	Med 2 cracks WP	High >30% length
	Low-Cracks < 1/4"	1	2	3
	Med-Cracks 1/4-3/4"	4	5	6
	High-Cracks > 3/4"	7	8	9

Edge Cracking

Severity	Extent (Length)			
	No Defects	Low <10%	Med 10-30%	High >30%
	0-6" from curb	1	2	3
	6-18" from curb	4	5	6
	> 18" from curb	7	8	9

Longitudinal Cracking

Severity	Extent			
	No Defects	Low 1 crack full length	Med 2 cracks full length	High >2 cracks full length
	Low-Cracks < 1/4"	1	2	3
	Med-Cracks 1/4-3/4"	4	5	6
	High-Cracks > 3/4"	7	8	9

Block Cracking

Severity	Extent (Length)			
	No Defects	Low > 15x15' squares	Med 15-10' squares	High <10x10' squares
	Low-Cracks < 1/4"	1	2	3
	Med-Cracks 1/4-3/4"	4	5	6
	High-Cracks > 3/4"	7	8	9

Transverse Cracking

Severity	Extent (ft between cracks)			
	No Defects	Low > 200'	Med 200-50'	High < 50'
	Low-Cracks < 1/4"	1	2	3
	Med-Cracks 1/4-3/4"	4	5	6
	High-Cracks > 3/4"	7	8	9

Utility Cuts

Severity	Extent (Length)			
	No Defects	Low <10%	Med 10-30%	High >30%
	Low-Cracks < 1/4"	1	2	3
	Med-Cracks 1/4-3/4"	4	5	6
	High-Cracks > 3/4"	7	8	9

Drainage/Roughness/Rutting

Severity	Condition		Description
	No Defects	0	Wide, deep ditches with no obstructions, smooth ride, no rutting, no potholes.
	Minor Defects	1	Drainage may be obstructed, < 1" rutting, minor roughness.
	Moderate Defects	2	Poor drainage, 1-2" rutting, noticeable roughness, potholes < 6" wide.
	Major Defects	3	No drainage; > 2" rutting; potholes 6-12" wide create roughness requiring reduced speeds.

CONCRETE RATING SHEET

Spalling of Joints

Extent (% joints)				
No Defects	Low <10%	Med 10-20%	High >20%	
Severity	Low Spalls < 3"	1	2	3
	Med Spalls 3-6"	4	5	6
	High Spalls > 6"	7	8	9

Broken Slabs

Extent (% slabs)				
No Defects	Low <5%	Med 5-15%	High >15%	
Severity	Low-no more than 3 pieces, no spalling/faulting	1	2	3
	Med-broken into >3 pieces, spalling/faulting <1/4"	4	5	6
	High-4 or more pieces, spalling/faulting >1/4"	7	8	9

Transverse Cracks

Extent (% slabs)				
No Defects	Low <10%	Med 10-20%	High >20%	
Severity	Low-Cracks < 1/8"; no spalling/faulting	1	2	3
	Med-Cracks 1/8-1/2"; spall <3", fault >1/4"	4	5	6
	High-Cracks > 1/2"; spall >3", fault >1/4"	7	8	9

Joint Seal Damage

Extent (%joints)				
No Defects	Low <10%	Med 10-20%	High >20%	
Severity	Low <10% joint length	1	2	3
	Med 10-50% joint length	4	5	6
	High >50% joint length	7	8	9

Faulting

Extent (Length)				
No Defects	Low <10%	Med 10-30%	High >30%	
Severity	Low < 1/2"	1	2	3
	Med 1/2-1"	4	5	6
	High > 1"	7	8	9

Patch Deterioration

Extent (Area)				
No Defects	Low <10%	Med 10-30%	High >30%	
Severity	Low-no fault, no settle at perimeter	1	2	3
	Med-fault & settle <1/4" at perimeter	4	5	6
	High-fault & settle >1/4" at perimeter, cracked patch	7	8	9

Corner Breaks

Extent (% of slabs)				
No Defects	Low <10%	Med 10-20%	High >20%	
Severity	Low-corner cracks, no spalling or faulting	1	2	3
	Med-crack slightly spalled & faulted <1/4"	4	5	6
	High-crack highly spalled & faulted >1/4"	7	8	9

Longitudinal Cracks

Extent (% slabs)				
No Defects	Low <10%	Med 10-20%	High >20%	
Severity	Low-Cracks < 1/8"; no spalling/faulting	1	2	3
	Med-Cracks 1/8-1/2"; spall <3", fault >1/2"	4	5	6
	High-Cracks > 1/2"; spall >3", fault >1/2"	7	8	9

Map Cracks

Extent (Area)				
No Defects	Low <10%	Med 10-20%	High >20%	
Severity	Low-small connected cracks, no spalling	1	2	3
	Med-connected cracks, no spalling	4	5	6
	High-large connected cracks with surface spalling	7	8	9

Deficiency Ratings With Associated Remaining Service Life

Asphalt Rating Sheet

Fatigue Cracking		Edge Cracking		Transverse Cracking		Utility Cuts	
Distress Rating	Remaining Service Life	Distress Rating	Remaining Service Life	Distress Rating	Remaining Service Life	Distress Rating	Remaining Service Life
0	20	0	20	0	20	0	20
1	10	1	12	1	14	1	14
2	8	2	10	2	12	2	12
3	6	3	8	3	10	3	10
4	8	4	10	4	12	4	12
5	6	5	8	5	10	5	10
6	4	6	6	6	8	6	8
7	6	7	8	7	10	7	10
8	2	8	6	8	6	8	6
9	0	9	4	9	2	9	2

Longitudinal Cracking		Block Cracking		Drainage/Roughness/Rutting	
Distress Rating	Remaining Service Life	Distress Rating	Remaining Service Life	Distress Rating	Remaining Service Life
0	20	0	20	0	20
1	14	1	12	1	16
2	12	2	10	2	10
3	10	3	8	3	4
4	12	4	10		
5	10	5	8		
6	8	6	6		
7	10	7	12		
8	8	8	6		
9	6	9	2		

Concrete Rating Sheet

Spalling		Broken Slabs		Transverse Cracks	
Distress Rating	Remaining Service Life	Distress Rating	Remaining Service Life	Distress Rating	Remaining Service Life
0	20	0	20	0	20
1	15	1	15	1	18
2	12	2	12	2	15
3	10	3	10	3	12
4	12	4	12	4	15
5	10	5	10	5	10
6	8	6	8	6	6
7	10	7	10	7	10
8	6	8	6	8	4
9	0	9	0	9	0

Joint Seal Damage		Faulting		Patch Deterioration	
Distress Rating	Remaining Service Life	Distress Rating	Remaining Service Life	Distress Rating	Remaining Service Life
0	20	0	20	0	18
1	16	1	15	1	16
2	14	2	12	2	14
3	12	3	10	3	12
4	14	4	12	4	12
5	10	5	8	5	10
6	8	6	6	6	8
7	12	7	10	7	10
8	8	8	4	8	6
9	6	9	0	9	0

Corner Breaks		Longitudinal Cracks		Map Cracks	
Distress Rating	Remaining Service Life	Distress Rating	Remaining Service Life	Distress Rating	Remaining Service Life
0	18	0	20	0	20
1	16	1	18	1	18
2	14	2	15	2	15
3	12	3	12	3	12
4	12	4	15	4	12
5	10	5	10	5	10
6	8	6	6	6	6
7	10	7	10	7	10
8	6	8	4	8	4
9	0	9	0	9	0

SUBJECTIVE CONDITION RATING FOR REMAINING SERVICE LIFE IN YEARS (Asphalt & Concrete Roads)

RSL	FAILED 0	POOR 1 - 6	FAIR 7 - 12	GOOD 13 - 18	EXCELLENT 19 - 20
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Deficiency Ratings With Associated Remaining Service Life

Native Primitive Improved Rating Sheet

Cross Section		Rutting		Roadside Drainage	
Distress Rating	Remaining Service Life	Distress Rating	Remaining Service Life	Distress Rating	Remaining Service Life
0	10	0	10	0	10
1	7	1	9	1	8
2	5	2	7	2	4
3	0	3	5	3	0
		4	7		
		5	4		
		6	3		
		7	4		
		8	2		
		9	0		

Potholes		Dust		Corrugations	
Distress Rating	Remaining Service Life	Distress Rating	Remaining Service Life	Distress Rating	Remaining Service Life
0	10	0	10	0	10
1	9	1	8	1	9
2	7	2	6	2	7
3	5	3	2	3	7
4	7			4	6
5	4			5	5
6	3			6	5
7	4			7	4
8	2			8	3
9	0			9	0

Gravel Rating Sheet

Cross Section		Rutting		Roadside Drainage	
Distress Rating	Remaining Service Life	Distress Rating	Remaining Service Life	Distress Rating	Remaining Service Life
0	10	0	10	0	10
1	7	1	9	1	8
2	5	2	7	2	4
3	0	3	5	3	0
		4	7		
		5	4		
		6	3		
		7	4		
		8	2		
		9	0		

Potholes		Dust		Corrugations	
Distress Rating	Remaining Service Life	Distress Rating	Remaining Service Life	Distress Rating	Remaining Service Life
0	10	0	10	0	10
1	9	1	8	1	9
2	7	2	6	2	7
3	5	3	2	3	7
4	7			4	6
5	4			5	5
6	3			6	5
7	4			7	4
8	2			8	3
9	0			9	0

Loose Aggregate	
Distress Rating	Remaining Service Life
0	10
1	9
2	8
3	7
4	8
5	7
6	6
7	5
8	3
9	0

SUBJECTIVE CONDITION RATING FOR REMAINING SERVICE LIFE IN YEARS (Gravel & Native Roads)

RSL	FAILED	POOR	FAIR	GOOD	EXCELLENT
	0	1 - 2	3 - 4	5 - 7	8 - 10